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PHYSICAL TRAINING.

C. J. KROH.

THE principal factor in our well-being is the maintenance of the elasticity of our "faculties" through their appropriate and regular use—the cultivation of the capabilities of action with which we are endowed. The determining motive, therefore, in a general scheme of educative physical training must aim for the development and reinforcement of the qualities of character exemplified in vigor of mind and body, and its co-essential, sound and robust health.

Physical training, or developmental school gymnastics, in its various phases, implies infinitely more than it has been possible thus far to incorporate into any general scheme of education. Its aims should reach far beyond the period of school life and become evident in the success of every sphere of practical life. Progress in this largely underrated phase of school work, as in everything else, signifies a constant enhancement of results. Results depend for their effectiveness on the integrity of the methods employed. These, again, must not be based upon a mere proximate evaluation of the work proposed in the gymnastic curriculum, but depend for their efficacy on an appreciation and careful weighing of the prevailing conditions. Failure in this one respect has not infrequently been directly responsible for the hesitation and authoritative laxity encountered in the advancement of this work.

A mere outline of progressive aims, without a practical enlistment of the reinforcing influences coincident with all educational procedure, may make the best of purposes futile. Isolation on the part of the physical-training master and of his work signifies an impairment of thoroughness. Omissions in this regard react through the conservatism of those who should be esteemed the most wholesome sustaining agencies.

To realize the possibilities of effective physical training the earnest co-operation of every member of the teaching staff is

absolutely required. To this end consultations concerning the expediency of measures conducive to the best interests of the pupils are of first importance. Physical training in its relation to the school program, and in its relation to the general scheme of physical training, as outlined in definite class aims, must be defined. The aims and ends determinative in the work adaptation of the different grades must be elucidated. To obviate defective classification, the grouping of individual pupils and classes, and the factors determinative for such grouping, must be discussed, that the most profitable organization, devoid of all friction and retarding influences, may be facilitated. Pupils of like abilities should be grouped together. The time assignment for the regular physical training and the recreation periods should be adequate and made proportionate to the actual needs of profitable work. The recreation periods must be determined in a measure by the convenience of the teachers, who should not only assist in the arrangement of the games, plays, field sports, and outings, but actively participate in them.

One of the earliest results of such an understanding should become perceptible in the improved movement of the whole school, in an order characteristic for its freedom of development within the general plan that governs and unites all.

These suggestions imply much more than the mere encouragement of health-promoting activities, or the insistence upon hygienic attitudes, the observance of the laws of health, and attention to the various class-room adjustments contributive thereto, or even acquiescence in the design of the respective programs. They imply that the background of this phase of school activity should be exploited and brought out in stronger relief; that skill should be exercised in enhancing the value of this important link in educational work by establishing its relation to the realities of life through the means presenting themselves in the opportunities of the regular curriculum.

What is the content of such training? Is it representative of factors emphasizing in the fullest all conduct? Is it constructive work of the highest order?

The index of a pupil's mind is best revealed in a study and

comparison of his physical and mental activities and states; it is not as clearly revealed in the recitation alone. The play of his instincts before, during, and after the gymnastic lesson, or play period, may reveal certain necessities. Eagerness and aptitude are frequently indicated for certain activities and studies, which the skilled teacher will wisely associate with his erstwhile inclinations. Studies of an exacting nature are contra-indicated immediately after physical training. The susceptibilities of the mind are again profitably approached and aroused only by whatever attracts and appeals during this temporary period of leisure. Habits of thought and convictions depend in no small measure on these phenomena. Relations are gradually discerned. History and literature, with their wealth of elevating and stimulating influences, should be exploited at this time, in order that such causal and rational relations may be sustained, and ordinary "tasks" relegated to the hour of more favorable states. Indeed, such procedure may add zest to a lesson in gymnastics, preceding it, and enable the pupil to express, in some form or other, his experiences, after the lesson. The arts provide such forms of expression. Beauty of form, strength and grace in action, as exemplified in the analysis of action-forms in the gymnasium, may become a means of enhancing the faculties of observation, memory, and reasoning.

The function of studying the pupil, his development and tendencies, necessitates certain data, which should be easily accessible for reference. This can accrue only when the recording of tests and records is participated in by the pupils. The physical records need not be as numerous as indicated in previous outlines in the *COURSE OF STUDY*; they should include only those items which are absolutely necessary to indicate the principal proportions and condition. Height and weight should be recorded as a basis for determining the condition of a pupil. The items of girths, breadths, lengths, and depths must indicate the normal measures of the respective ages on record cards furnished, on which the pupil can contrast his first and second entries and compare the differences. Profitable work is offered here. Indeed, there is no dearth of opportunities for measuring

force, distance, and speed in connection with the work in physical training. The study of conditions before and after exercise, as ascertained in pulse, heart, and lung tests, of respiration tests under varying conditions, leading straight to the study of individual needs, of environmental conditions, and all it implies,¹ can be made most profitable in accentuating the physical-training work.

It is the design, during the current year, to review the work concurrent with these suggestions in the various grade reports. These reports will take the place of the practical work outlines printed last year.

SUGGESTIVE WORK OUTLINES FOR OCTOBER AND MAY, AND INTERVENING MONTHS.

October.—Organization: Arrangement of grades and groups—upper grades, sexes separate. Regulation of attendance, exercise—see gymnasium directions. Dispensations. Hygienic precautions, care of body, dress adaptation to work, bathing, etc.

Recording of physical measurements: age, weight, height, girths, breadths, lengths, and depths.² (Seat and desk adjustments.)

Tests: Sense of rhythm, direction; co-ordinative power.

Climbing, jumping, and running records.

Special: Examination of lungs, heart; condition. Vision, hearing.

Gradation and division of pupils into regular and special groups. Assignment of school and home work; play periods—direction. Corrective work.

Measurements, tests, and records retaken in May.

¹One of the most profitable studies of one of the grades during the past year began with a study of ventilation and the properties of air, followed by a measurement of lung capacities and calculations of amount of air needed individually in the school and in the home living-rooms. This was followed by a series of lessons on anatomy and physiology of the lungs, based on observations of the human body and supplemented by a study of anatomical models. Records of temperature, pulse rate, etc., were taken before and after various activities, and relations and effects of exercise ascertained. For work in other grades—number and history—see grade outlines by VAN HOESEN, THOMSEN, and others, in *COURSE OF STUDY*, Vols. I, II.

²The individual relations of pupils to the normal standard of age, height, etc., percentages above and below the average, should be charted and compared by the pupils themselves on charts provided for that purpose (cards 5 × 8 inches), and under the direction of the regular teacher. The various growth influences and their relations to educational problems can be most profitably studied only if the necessary data are in the hands of the teacher for ready reference. Pupils may be given two cards to fill out, one for the home and another for the schoolroom record.

For practical work outlines, see grade outlines, Vol. II, COURSE OF STUDY.

An outline of practical school gymnastics, on the basis of definitive grade aims, will be issued in pamphlet form during the year.

Work of the grades incidental to studies, eventually leading to dramatizations and illustrations of typical scenes and actions, including gymnastic reviews, games, plays, and sports in season, and their expression — art side — to be represented in connection with the monthly morning exercises, the whole school participating. The various grades and classes contribute on these occasions in regular order to the subject of their respective exercises, or on some special line of work, on the basis of their information and skill.

GRADE AIMS.

First grade.— Emphasis on exercises, especially of the larger groups of muscles, and regulation of breathing. Promotion of growth through the stimulation of breathing and circulation in exercise in light and air; recreative form of exercise. To be avoided: any form of exercise for strength, even in the smaller muscles, in order not to consume the material necessary for growth; avoid also any demand upon the young nerves through premature training in that direction.

Plays and games: For testing, developing, and sharpening the sense-perceptions. Sight: differentiation of (*a*) form; (*b*) color. Hearing: distance, direction of sound. Feeling: distinguishing objects according to form and weight.

Second grade.— Incentive to growth and blood-formation, as above. Strain of muscle avoided in consideration of the growing process.

Plays and games: Imitation games, based on sense-perceptions. In addition: modes of sack and ball tossing and catching.

Third grade.— Importance of improved bearing and carriage (improved holding power); cultivation of poise; erect position in address. Promptness in response. Accuracy in execution of combinations of simple exercises in free gymnastics.

Plays and games: To be added: short, competitive games.

Fourth grade.— Importance of correct posture concepts in varied combinations of movements. Light to medium exercises for endurance — running, apparatus gymnastics (rhythmic series of similar recurring movements, as “traveling”), never to the point of fatigue.

Plays and games: To lower reaction time between definite sense-perceptions and definite actions.

Fifth grade.—Improvement of volitional control through effort in new co-ordination problems—free and apparatus gymnastics. Improvement of gait and poise, balancing exercises. Special adaptation of running and jumping exercises; moderately increased demands. Preference for the more active running games. Training for pleasure in action. Introduction of elementary dancing calisthenics (girls).

Plays and games: To be added: "Antagonistics" in groups, employing apparatus, as: poles, ropes, etc. (like orders, without individual distinctions).

Sixth grade.—Development and practice of the characteristic forms of apparatus work—preparation for exercises of skill. Training for dexterity. Agility, alertness, cultivated in the practice of games; importance of forms leading to the more active outdoor games. Systematic marching, running, and jumping exercises with increased demands for endurance. Avoidance of over-strenuous efforts.

Plays and games: As above. Ability to recognize advantages and to follow most practical procedures. Reaction of one of several sense-perceptions through most practical action suggested. Quick discernment, judgment.

Seventh grade.—Importance of heart and lung action; moderately increased demands in apparatus work; lighter "theme work;" development of representative action; constructive "series" of exercises. Endurance: moderately sustained activity, *i. e.*, rhythmic, much increased activity. To be avoided: real strain; mere ornamental and aimless drill.

Plays and games: As above. Analysis of action-forms, representative of games and sports; practice of foundation movements in characteristic sports.

Eighth grade.—Exercises of skill on apparatus; outdoor athletics. Training for dexterity and pleasure in action. Outdoors: speed over short courses; running; endurance, long distances, moderately slow and fast; walking and running, with careful increase of duration. Practice of sprints, starts, dashes; emphasis of conscious effort. Strenuous efforts leading to disturbance of breathing and circulation to be avoided.

Plays and games: "Antagonistics"—team work, like and unlike orders. Practice of the higher organized games in simplified form. Forms of relay racing, team plays, and class contests.

Special course. General and applied gymnastics. The correlation of school gymnastics with school work in general. System and method in outlining the year's curriculum. Organization, direction, co-operation of teachers.

Pedagogics of gymnastic instruction. Methods of reinforcing progress; processes of progressive gymnastic development in advanced work—technique, form.

Practical school anthropometry, including physical tests and measurements, and inquiries to determine condition. The adaptation of develop-

mental measures to class and group work, and individual treatment. The results of scientific investigation, and the needs of the normal body; values and effects of procedures.

The organization of forms of recreation, on playgrounds. Field days. The planning of indoor and outdoor gymnasia.

Practical work throughout the year :

First quarter : (a) Advanced apparatus gymnastics ; (b) development of skill in the use of hand apparatus ; (c) springing exercises, forms of jumping, vaulting, leaping.

Second quarter: Apparatus gymnastics ; (a) foil and sword fencing ; (b) boxing ; (c) dancing calisthenics.

Third quarter: Apparatus gymnastics ; (a) tactics, evolutions, drills, roundels ; (b) gymnastic and character dancing ; (c) forms of antagonistics.

Outdoors — fall and spring — athletics : putting shot, throwing hammer and disk, pole-vaulting, hurdling.

HIGH SCHOOL.

I. Apparatus gymnastics: Exercises for dexterity, involving quick co-ordination and leading to skill and control: Cultivation of ease of movement, form, and grace, through sequential practice orders leading to definite gymnastic exercises. Springing exercises, as jumping and vaulting, with especial attention to execution and form, and to the avoidance of over-exertion.

Games of alertness. Dancing calisthenics, to improve grace and ease of movement.

II. Apparatus gymnastics: Exercises for strength and skill ; increased demands in co-ordinate activity in various combinations of typical forms, leading to endurance. Training for track and field exercises ; walking, running, jumping, high and broad. Swinging and hurling of grip-balls and light weights ; ball-throwing. Dancing.

III. Gymnasium and field work: Training for condition ; prescribed work ; use of developing appliances. Practice of special forms ; pole-vaulting ; sprint races, hurdle practice, throwing hammer, putting shot. Gymnastic games. Military exercises ; stick fencing, foil fencing. Dancing.

IV. Gymnasium, field, and track work : Contests between gymnastic and athletic teams and clubs. Competitive forms of exercise : apparatus gymnastics ; field and track athletics ; military exercises ; fencing, etc. ; games and sports.

PEDAGOGICAL CLASS.

The work of the first-year students of the pedagogical class will consist of a progressive course of practical school gymnastics, illustrative of the fundamental procedures, analysis, technique, and order of gymnastic movement forms. The course includes tactics, free exercises, tacto-gymnastic

exercises, apparatus gymnastics, dancing calisthenics, the simpler organized games, sports, and plays ; also forms of antagonistics and team work for indoor and outdoor recreation. Fall, winter, and spring quarters.

Second-year students. General theories and principles of school gymnastics. Survey of material. The correlation of gymnastics, of free gymnastics and apparatus forms. Methods of arrangement and adaptation. Instruction. A course in general gymnastics with special reference to the class aims embodied in the general scheme of gymnastics of the School of Education : study of purposive and effective training, of sequence and co-ordination in gymnastic procedure on the basis of gymnastic knowledge derived from a study of the structure and functions of the human body. Interpretation of individual needs and qualifications. Application of gymnastic principles to school recreation in the direction of plays, sports, and games. For work synopsis see Vol. II, No. 1, July number of *COURSE OF STUDY*.

Plan of work adaptation : Purpose, to meet the physical requirements of pupils through the selection of appropriate material ; to enhance power and skill through progressively co-ordinated action ; to study physical development as judged by actions and attitudes ; estimates of condition, of strength, control, mobility, and flexibility ; degrees of volition, attention ; accuracy in execution, etc. ; importance of foreseeing and counteracting tendencies toward faulty action and posture.

GENERAL DIRECTIONS.

The cultivation by the pupils of an erect carriage and good bearing must be insisted upon on all occasions, at all times. Pupils will be required to rise promptly and to stand properly, correctly observing the fundamental standing position, with head erect and chest active. A frank and open look should be characteristic of their address. In all study and recitation the closest attention will be given to physical exercise, and all exercises will be correlated with the other work of the school. In manual training, music, and oral reading, and in constructive work of all kinds, the normal development of the body will be kept steadily in view. Pupils persisting in faulty attitudes during recitations will be referred to the teachers' assistants for special gymnastics.

The physical training proper, not immediately connected with subjects of study and expression, will be of two kinds, concerted and individual. Pupils who, through some bodily defect or weakness, are not equal to concerted work will have individual and corrective work.

Particular attention will be given in all seasons of the year to the adaptation of the dress of the pupils to physical exercise, and no clothing, wraps, tight bandages, or inelastic belts, in any way restricting freedom of action and a natural development, should be worn. Rubber shoes or boots should not be worn during school hours.

The physical training must always be conducted in pure air, and short, vigorous exercises given whenever needed. Plenty of light is also advisable. Study the ventilation of the rooms and test the air by outdoor breathing. The temperature of the class-room should be about 68°.

If practicable, exercise in the open air, outdoors. Avoid unnecessary exposure to drafts. The work should be essentially contributive to the health and spiritual freshness of the children and students, and must be directed as a means of developing personal vigor. Outdoor exercise, therefore, is preferable to room drills.

In the same way that the children are led to gymnasium practice they must also be introduced to gymnastic play. Experience teaches that even the games of children must be first learned, and that these need preparation and practice, extension and limitation, as does every other pursuit. There are pupils whose disposition is opposed to the normal activities of childhood, in whom an indoor life has destroyed the inclination to play. In others the zeal for play must be tempered. Children needing special attention in physical training are brought to the offices of this department by the teacher's assistants, who will receive instructions for the work of such pupils. Such work is to be directed by the assistant teachers at a time specially designated by the regular teacher, or as advised. Reports concerning state of health, progress, regularity of school and designated home work are to be made regularly.

On presentation of children for special work, the regular teacher's detailed statement in each case is desired.

GYMNASIUM ORDER.

Be prompt, regular, and orderly.

Attend in gymnastic costume.

"Align" quickly, noiselessly. Observe the proper attitude of "attention" upon the call to order.

Throughout the regular work observe closely the "order" prescribed. Do not leave your place without the consent of the instructor or class leader. The general plan governing all demands your attention to the work in hand.

Always take part in the exercises of the division to which you have been assigned, in class or group work, game, or play. Changes from one group to another are arranged between the respective class leaders.

In all work, other than class or group work, do not attempt the execution of an exercise which you have not personally developed. Do not attempt without assistance difficult exercises not thoroughly practiced and mastered. Exercises not dangerous are to be practiced only in the presence of an assistant. Each person is therefore bound to assist another when called upon. Always assist those eager to work before and after the regular class work.

Instructors and group leaders will always see that all exercises follow in their natural order and in gymnastic sequence, beginning with the simple and gradually leading to the more difficult exercises.

Apparatus set for class or group practice must not be rearranged without the consent of the instructor in charge.

After regular practice all apparatus must be properly replaced, unless otherwise ordered.

Carry the mats; do not drag or fold them.

Do not sit on the apparatus.

The ushers will accompany visitors introduced to the places reserved for them. Class members not at work are assigned to the visitors' row.

All visitors must be introduced or present cards of admission, obtainable at the dean's office.

The members of the various classes have the privilege of organizing teams and groups for special practice and competi-

tive work. All candidates for the practice of games requiring exceptional activity, however, must be presented at the office of this department before entering upon such practice.

Periods for team plays can be arranged for only with the consent and under the supervision of the regular teacher, or some responsible person.

Team play or practice shall at no time take the place of the regular physical-training lesson, or conflict with the regular schedule.

Set games and team practices must be arranged for by the officials of the respective teams, who shall report their dates and arrangements at this office.

All apparatus, chairs, or benches used during special practice, whether for the convenience of spectators or class members, must be replaced upon the close of such practice.

The officials of teams and practice groups are responsible for the observance of the above rules.